NOVEMBER/DECEMBER 2023

CBT53 — BIOINFORMATICS

Time : Three hours Maximum : 75 marks

SHANMUGA INDUSTRIES ARTS & SCIENCE COLLEGE LIBRARY

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. List out the features of DDBJ.
2. Classify the biological databases.
3. What are the applications of MSA?
4. Summarize the significance of dot plot.
5. Define E-value.
6. Summarize the significance of functional genomics.
7. Define SCOP.
8. Summarize the features of PDB.
9. List out the steps in fold recognition method.
10. Compare protein domain and motif.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Select any two – nucleotide databases and write about its importance.

Or

(b) List the objectives of Bioinformatics.

12. (a) Utilize BLAST to explain pairwise alignment.

Or

(b) List out specialized in BLAST.

13. (a) How would you utilize BLAST to find homologous sequences?

Or

(b) List out the applications of gene prediction.

14. (a) Categorize the secondary structure of protein with examples.

Or

(b) Select any two protein visualization tools and write its significance.

15. (a) Organize the methods for protein function annotation.

Or

(b) Categorize the methods for protein identification.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about scope and applications of Bioinformatics in medicine and pharmaceutical industry.

17. Explain in detail about Multiple sequence alignment.

18. Appraise in detail about FASTA and its applications.

19. Elaborate in detail about protein structure databases.

20. Discuss about protein structure prediction methods.

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